IN THE CLAIMS:

Please cancel claims 1-33 without prejudice or disclaimer, and substitute new Claims 34-66 therefor as follows:

Claims 1-33 (Cancelled).

34. (New) A method for manufacturing a tyre comprising:

disposing an uncured elastomeric material on a substantially rigid support, so as to form a green tyre;

inserting said green tyre disposed on said support into a vulcanization mold;

closing the vulcanization mold so as to define a molding cavity between an outer surface of said support and an inner surface of said vulcanization mold; and

molding and curing the green tyre, at least one portion of the green tyre being molded and cured at a substantially constant volume in at least one portion of said molding cavity;

wherein the step of disposing said uncured elastomeric material on the support comprises:

determining a first excess material volume curve of said elastomeric material with respect to an available volume in said at least one portion of the molding cavity versus a predetermined direction; and

controlling a volume distribution of said elastomeric material on said rigid support so as to substantially fit said first curve.

35. (New) The method according to claim 34, wherein said step of controlling said volume distribution of elastomeric material on said support comprises:

determining a first positioning specification set for machinery associated with a deposition of said uncured elastomeric material on said support corresponding to said first excess material volume curve; and

moving said machinery according to said first positioning specification set.

36. (New) The method according to claim 35, wherein said step of determining said first excess material volume curve comprises:

providing a target excess material volume curve;

providing at least a second positioning specification set for said machinery;

determining a second excess material volume curve corresponding to said second positioning specification set; and

comparing said second curve with said target curve, so as to determine volume distribution differences between said second curve and said target curve versus said predetermined direction.

37. (New) The method according to claim 36, further comprising:

determining a first cross-section profile of at least one portion of green tyre from said second positioning specification set.

38. (New) The method according to claim 37, further comprising:

modifying said first cross-section profile using said volume distribution differences between said second curve and said target curve, thereby determining a second cross-section profile of said at least one portion of green tyre.

39. (New) The method according to claim 38, wherein said step of determining said first positioning specification set for said machinery comprises:

determining said first positioning specification set at least from said second cross-section profile.

40. (New) The method according to claim 35, wherein said machinery comprises a robotized arm associated with said support.

41. (New) The method according to claim 34, wherein said step of disposing said uncured elastomeric material on said support comprises extruding said uncured elastomeric material in the form of elongated elements including said elastomeric material.

42. (New) The method according to claim 35, wherein said first positioning specification set comprises a plurality of positioning records, each of said positioning records comprising at least spatial coordinates of a predetermined point of a cross-section of said elongated element.

43. (New) The method according to claim 36, wherein said first, second or target excess material volume curve represents the following function:

$$EM(y) = \frac{V_{mat}(y) - V_{mold}(y)}{V_{mold}(y)}$$

wherein y is a variable representing said predetermined direction, $V_{mat}(y)$ is a volume of said elastomeric material between a reference point of said vulcanization mold and a value y of said variable, and $V_{mold}(y)$ is a volume of said mold cavity between said reference point and said value y.

44. (New) The method according to claim 36, wherein said first, second or target excess material volume curve represents the following function:

$$\Delta M(y) = V_{mat}(y) - V_{mold}(y)$$

wherein y is a variable representing said predetermined direction, $V_{mat}(y)$ is a volume of said elastomeric material between a reference point of said vulcanization mold and a value y of said variable, and $V_{mold}(y)$ is a volume of said mold cavity between said reference point and said value y.

45. (New) The method according to claim 36, wherein said first, second or target excess material volume curve is the following function:

$$EM_{loc}(y_1, y_2) = \frac{V_{mat}(y_1, y_2) - V_{mold}(y_1, y_2)}{V_{mold}(y_1, y_2)}$$

wherein y_1, y_2 are two predetermined values of a variable representing said predetermined direction, $V_{mat}(y_1, y_2)$ is a volume of said elastomeric material between said values y_1, y_2, and $V_{mold}(y)$ is a volume of said mold cavity between said values y_1, y_2.

46. (New) The method according to claim 36, wherein said first, second or target excess material volume curve is the following function:

$$\Delta M_{loc}(y_1, y_2) = V_{mat}(y_1, y_2) - V_{mold}(y_1, y_2)$$

wherein y_1, y_2 are two predetermined values of a variable representing said predetermined direction, $V_{mat}(y_1, y_2)$ is a volume of said elastomeric material between said values y_1, y_2, and $V_{mold}(y)$ is a volume of said mold cavity between said values y_1, y_2.

47. (New) The method according to claim 36, wherein said redetermined direction is a radial direction.

48. (New) A method for controlling a disposition of an uncured elastomeric material on a rigid support for the manufacturing of a green tyre to be molded and cured in a vulcanization mold, said vulcanization mold and said rigid support defining a molding cavity such that at least one portion of the green tyre is molded and cured at a substantially constant volume in at least one portion of said molding cavity, comprising:

providing a first positioning specification set for machinery associated with a disposition of said uncured elastomeric material on said support;

providing a cross-section profile of at least said portion of the molding cavity; and

determining, from said first positioning specification set and from said molding cavity cross-section profile, a first excess material volume curve of said uncured elastomeric material with respect to an available volume in said portion of the molding cavity, versus a predetermined direction.

49. (New) The method according to claim 48, further comprising:

providing a target excess material volume curve; and

comparing said first curve with said target curve, so as to determine volume distribution differences between said first curve and said target curve versus said predetermined direction.

50. (New) The method according to claim 48, further comprising:

determining a first cross-section profile of at least one portion of said green tyre from said first positioning specification set.

51. (New) The method according to claim 50, further comprising:

modifying said first cross-section profile using said volume distribution differences between said first curve and said target curve, thereby determining a second cross-section profile of said green tyre portion.

52. (New) The method according to claim 49, wherein said first or target excess material volume curve represents the following function:

$$EM(y) = \frac{V_{mat}(y) - V_{mold}(y)}{V_{mold}(y)}$$

wherein y is a variable representing said predetermined direction, $V_{mat}(y)$ is a volume of said elastomeric material between a reference point of said vulcanization mold and a value y of said variable, and $V_{mold}(y)$ is a volume of said mold cavity between said reference point and said value *y*.

53. (New) The method according to claim 49, wherein said first or target excess material volume curve represents the following function:

$$\Delta M(y) = V_{mat}(y) - V_{mold}(y)$$

wherein *y* is a variable representing said predetermined direction, $V_{mat}(y)$ is a volume of said elastomeric material between a reference point of said vulcanization mold and a value *y* of said variable, and $V_{mold}(y)$ is a volume of said mold cavity between said reference point and said value *y*.

54. (New) The method according to claim 49, wherein said first or target excess material volume curve represents the following function:

$$EM_{loc}(y_1, y_2) = \frac{V_{mat}(y_1, y_2) - V_{mold}(y_1, y_2)}{V_{mold}(y_1, y_2)}$$

wherein y_1, y_2 are two predetermined values of a variable representing said predetermined direction, $V_{mat}(y_1, y_2)$ is a volume of said elastomeric material between said values y_1, y_2, and $V_{mold}(y)$ is a volume of said mold cavity between said values y_1, y_2.

55. (New) The method according to claim 49, wherein said first or target excess material volume curve represents the following function:

$$\Delta M_{loc}(y_1, y_2) = V_{mat}(y_1, y_2) - V_{mold}(y_1, y_2)$$

wherein y_1, y_2 are two predetermined values of a variable representing said predetermined direction, $V_{mat}(y_1, y_2)$ is a volume of said elastomeric material between said values y_1, y_2, and $V_{mold}(y)$ is a volume of said mold cavity between said values y_1, y_2.

56. (New) The method according to claim 48, wherein said predetermined direction is a radial direction of said green tyre.

57. (New) A computer program directly loadable into a memory of a computer, for performing a method for controlling a disposition of an uncured elastomeric material on a rigid support for the manufacturing of a green tyre to be molded and cured in a vulcanization mold, said vuicanization mold and said rigid support defining a molding cavity such that at least one portion of the green tyre is molded and cured at a substantially constant volume in at least one portion of said molding cavity, the program comprising code portions capable of being adapted for

acquiring a first positioning specification set for a machinery associated with a disposition of said uncured elastomeric material on said support acquiring a cross-section profile of at least said portion of the molding cavity; and

determining, from said first positioning specification set and from said molding cavity cross-section profile, a first excess material volume curve of said uncured elastomeric material with respect to an available volume in said portion of the molding cavity, versus a predetermined direction.

58. (New) The computer program according to claim 57, further comprising code portions capable of being adapted for

determining a target excess material volume curve; and

comparing said first curve with said target curve, so as to determine volume distribution differences between said first curve and said target curve versus said predetermined direction.

59. (New) The computer program according to claim 57, further comprising code portions capable of being adapted for

determining a first cross-section profile of at least one portion of said green tyre from said first positioning specification set.

60. (New) The computer program according to claim 59, further comprising code portions capable of being adapted for

modifying said first cross-section profile using said volume distribution differences between said first curve and said target curve, thereby determining a second cross-section profile of said green tyre portion.

61. (New) The computer program according to claim 58, wherein said first or target excess material volume curve represents the following function:

$$EM(y) = \frac{V_{mat}(y) - V_{mold}(y)}{V_{mold}(y)}$$

wherein y is a variable representing said predetermined direction, $V_{mat}(y)$ is a volume of said elastomeric material between a reference point of said vulcanization mold and a value y of said variable, and $V_{mold}(y)$ is a volume of said mold cavity between said reference point and said value y.

62. (New) The computer program according to claim 58, wherein said first or target excess material volume curve represents the following function:

$$\Delta M(y) = V_{mat}(y) - V_{mold}(y)$$

wherein y is a variable representing said predetermined direction, $V_{mat}(y)$ is a volume of said elastomeric material between a reference point of said vulcanization mold and a value y of said variable, and $V_{mold}(y)$ is a volume of said mold cavity between said reference point and said value y.

63. (New) The computer program according to claim 58, wherein said first or target excess material volume curve represents the following function:

$$EM_{loc}(y_1, y_2) = \frac{V_{mat}(y_1, y_2) - V_{mold}(y_1, y_2)}{V_{mold}(y_1, y_2)}$$

wherein y_1, y_2 are two predetermined values of a variable representing said predetermined direction, $V_{mat}(y_1, y_2)$ is a volume of said elastomeric material between said values y_1, y_2, and $V_{mold}(y)$ is a volume of said mold cavity between said values y_1, y_2.

64. (New) The computer program according to claim 58, wherein said first or target excess material volume curve represents the following function:

$$\Delta M_{loc}(y_1, y_2) = V_{mat}(y_1, y_2) - V_{mold}(y_1, y_2)$$

wherein y_1, y_2 are two predetermined values of a variable representing said predetermined direction, $V_{mat}(y_1, y_2)$ is a volume of said elastomeric material between said values y_1, y_2, and $V_{mold}(y)$ is a volume of said mold cavity between said values y_1, y_2.

65. (New) The computer program according to claim 57, wherein said predetermined direction is a radial direction of said green tyre.

66. (New) A computer program product comprising a computer readable medium on which the computer program of claim 57 is stored.